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OREGON FLORA NEWSLETTER

Volume 2 Number 1 • Oregon State University • January 1996

How did non-native plants get to Oregon?

by Barb Wilson

Non-native plants have arrived in Oregon in a variety of ways. Written records concentrate on deliberate introductions, and many of our naturalized plants were brought here as crops, ornamentals, medicines, or for soil erosion control. Examples include food crops such as Himalayan blackberry (*Rubus discolor*); hay crops such as timothy (*Phleum pratense*) (a single bushel was brought overland in 1825); Fuller's teasel (*Dipsacus sativus*) cultivated in Clackamas County (the only center of cultivation west of the Mississippi) to raise the nap on wool cloth; medicinal herbs such as tansy, mint, and catnip; gorse for fencing sheep, clovers planted to fix nitrogen; and European beach grass (*Ammophila arenaria*) for controlling the movement of sand dunes.

Perhaps more intriguing are the species introduced unintentionally. An overlooked apple core initially brought in by mistake in the late 1820s became the progenitor of Oregon's first orchard.

An interesting variant on the theme of accidental introductions involves an extension agent who sent letters to ranchers in the intermountain west, asking whether or not certain serious weeds had become established in their areas. To insure correct identification, he included a sample of each weed. Seeds from those plants helped expand their range.

No doubt a variety of seeds were introduced as contaminants in crops, a process that continues today. Before 1880, cheat (*Bromus secalinus*) was introduced as a contaminant of rye but for a time cheat itself was cultivated as a forage crop. Just this year the first Oregon record of the sedge *Carex chordorrhiza* was reported, from a cranberry crop established from Wisconsin stock.

Livestock are effective plant transporters, carrying seeds entangled in wool or hair, stuck in hooves, or in the digestive system. Horses brought overland from the midwest probably brought some seeds, but probably more important were the drives that,

See Non-natives, page 2

Carex Working Group reviews genus

by Camille V. Tipton

A handful of researchers and graduate students at Oregon State University have been meeting regularly for the past two years to examine the genus *Carex,* (sedges) a part of one of the world's most confusing families, the Cyperaceae or sedge family.

The Carex Working Group began weekly meetings in Fall 1993 for the purpose of organizing the available data on the Oregon sedges, creating distribution maps, and eventually writing new keys to the genus.

They began sifting through the herbarium's 40 shelves of specimens and sorting through records. As a group, they discussed identification problems they, or other people, encountered.

"Pretty soon it became obvious that we needed to computerize our records so we could accurately map them," said Barb Wilson, an OSU graduate student instrumental in the group's formation.

To date, they have more than 4,500 records in the database and have almost completed reviewing the herbarium's specimens. Six exotic and 122 native species have been documented in Oregon.

See Carex, page 2

photo by Camille V. Tipton

Carex Working Group at the OSU herbarium

Carex, continued from front page

Last spring, member Peter Zika discovered an undescribed species of *Carex*. He is planning to submit an article describing the find for publication this winter.

OSU Professor and Cartographer Jon Kimerling, a member of the Oregon Plant Atlas Project, used the gathered data to create the first *Carex* distribution map. It details vouchered and unvouchered collection sites (see related story, page 3 and related map on the back page).

In addition to the group's research efforts, Barb and Keli Kuykendall jointly taught a *Carex* identification class through the university in the fall of 1993 and 1994.

"I think it is wonderful that there are so many people excited about a group of plants that have been ignored for so long," said Peter, who is a research associate in the herbarium. "Together, they have really done an amazing amount of work."

Other members of the Carex Working Group include Richard Brainerd, Francisco Camacho, Manuela Huso, Danna Lytjen, Bruce Newhouse, Jim Oliphant, and Nick Otting.

Illustrations of *Erythronium oregonum* on cover and back page by Linda Ann Vorobik.

The Oregon Flora Newsletter is published quarterly by the Oregon State University Herbarium and the Oregon Flora Project. The Editor is Rhoda Love and the Production Assistant is Camille V. Tipton.

Checklist Project Leaders:
Kenton Chambers
Richard Halse
Jimmy Kagan
Aaron Liston
Rhoda Love
Robert Meinke
Brad Smith
Scott Sundberg
Karl Urban
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Robert Frenkel
Manuela Huso
Tom Kaye
Jon Kimerling
George Lewis
Aaron Liston
Bruce Newhouse
Charlene Simpson
Scott Sundberg
Peter Zika
Don Zobel
Address correspondence to:
Scott Sundberg
Department of Botany & Plant Pathology
Oregon State University
2082 Cordley Hall
Corvallis, OR 97331-2902
E-mail: sundbers@bcc.orst.edu
(541) 737-4338 or 737-4106; FAX (541) 737-3573

Non-natives, continued from front page

beginning in 1841, brought hundreds of cattle, sheep, and horses north from California. These animals must have brought seeds of the Mediterranean plants that were already transforming California's grasslands.

Farm equipment can carry plant propagules between farms and occasionally across long distances. About 1872, a thresher that was brought from the east introduced Canada thistle (*Cirsium arvense*) to Marion County.

Traveling long distances quickly, railroads have been important in the spread of major weeds like downy brome (*Bromus tectorum*) and minor curiosities like Oregon's only record of wild hair fescue (*Festuca filiformis*).

Ships are perhaps less important plant transporters of land plants now than they were when they took on soil or sand as ballast. In 1915, James D. Nelson reported 213 species on ballast at Linnton (now an industrial area of Portland). Over 60 of them, such as the iceplant (*Mesembryanthemum crystallinum*) and sand sedge *(Carex arenaria)* were new to Oregon.

As you can see, plant species can arrive in Oregon in a wide variety of ways, and they continue to arrive.

New logo premieres this issue

by Scott Sundberg

For the past year we have been using an illustration of *Erythronium oregonum* from *Vascular Plants of the Pacific Northwest* as an informal logo for the Flora project. It has graced the front page of the newsletter with a second illustration on the back page. A few months ago Paul Hammond, who with Ken Chambers described the rare *Erythronium elegans*, pointed out that the illustration showed the anthers appressed to the style. Unfortunately, *E. oregonum* has anthers that hang free of the style and so the illustration is incorrect! Paul surmised that it was based on a specimen of *E. revolutum.*

Recently we commissioned Dr. Linda Ann Vorobik to draw a new logo for the Oregon Flora Project. Linda is a professional scientific illustrator and was a Principal Illustrator for the *Jepson Manual*. She has a Ph.D. in Biology from the University of Oregon. Linda's two new illustrations of the flower of *Erythronium oregonum* make their debut in this issue of the newsletter. We hope you enjoy them as much as we do!

Cartographer is integral part of Atlas project

by Camille V. Tipton

Oregon State Professor Jon Kimerling is developing maps for the Oregon Plant Atlas Project.

Jon, a professor of geography and cartography at OSU since 1976, joined the Atlas project last spring. His area of expertise is a critical component of the effort, which will document all native and naturalized vascular plant occurrences in the state. The project's goal is to produce distribution maps and an electronically accessible database for all taxa.

Recently, Jon used database records of *Carex nudata* (torrent sedge) to produce a map that will be a model for distribution maps in the Oregon Plant Atlas.

"I have created a relief map of the state so you can see the mountains and rivers," said Jon, who writes his own *C* computer programs to analyze data and generate images. He also teaches courses in computer-assisted cartography, remote sensing, and geographic information systems (GIS) at OSU.

Vouchered and unvouchered observation sites are noted on the map and can be correlated with the contours of the land. Maps based on the *Carex nudata* prototype will eventually be generated for all Oregon vascular plant species.

"The base map of Oregon that Jon created is useful in many ways," said Scott Sundberg, coordinator of the Atlas project. "One use is as an editing tool for the database. A dot on the map that appears out in the ocean or a dot showing a low-elevation species high in the Cascade Mountains immediately draws our attention, allowing us to double-check our records."

A native of Northern California, Jon first became interested in map-making when he was 12 years old. A school project that required him to make a commodities map of France triggered his life-long fascination with cartography.

photo by Camille V. Tipton

Jon Kimerling, cartographer for the Oregon Plant Atlas Project

In college he studied geography and cartography at the University of Washington, then completed his dissertation on remote sensing and cartography at the University of Wisconsin.

He is currently working on a handful of other projects including an atlas of Oregon animals for the Oregon Department of Fish and Wildlife, three-dimensional mapping in the Los Angeles basin, and aerial videography which will be used in checking land cover maps in Oregon.

Jon has published articles in *Cartography* and *Geographic Information Systems* and is past president of the American Cartographic Association.

In his spare time he likes to travel, having spent time in Europe and Asia, and a year in Budapest, Hungary. He also likes fishing, hunting, and camping.

Offer to identify Oregon *Astragalus*

Aaron Liston is offering to identify any Oregon specimen of *Astragalus* sent to him. He is particularly interested in well-documented collections of variable species like *A. lentiginosus, A. purshii*, and *A. whitneyi*, but all species are welcome. Specimens should be pressed and dried; whenever possible include both flowers and fruit (this may require two visits). Flower color should be noted, as this often changes upon drying. Complete locality and habitat data should also be included. Specimens cannot be returned (many will be incorporated into the OSU herbarium), therefore please keep a duplicate for yourself, if desired. Determinations will be sent promptly. There are 74 *Astragalus* taxa (species and varieties) in the state, so this is your chance to learn more about this diverse genus!

Send specimens to:
Dr. Aaron Liston, Herbarium Director
Department of Botany and Plant Pathology
Oregon State University
2082 Cordley Hall
Corvallis, OR 97331-2902, USA

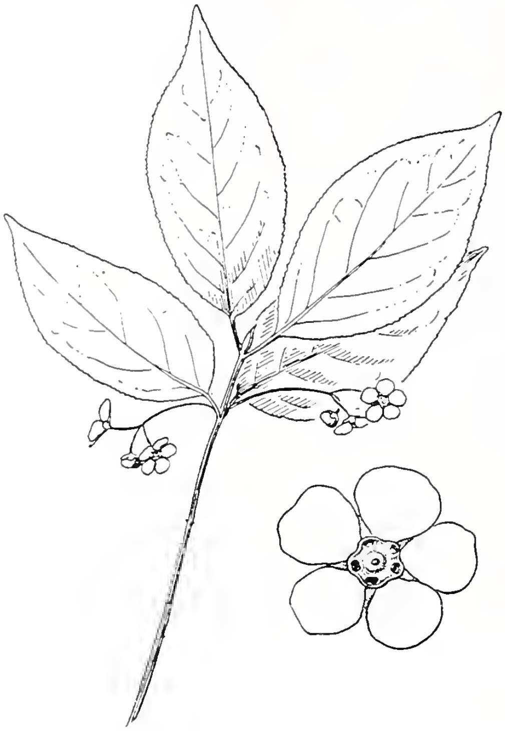
Lane County checklist grows daily

by Charlene Simpson

Late in 1992, Bruce Newhouse, then president of the Emerald Chapter of the Native Plant Society of Oregon, proposed the idea of a geographical inventory of the flora of Lane County. We had long admired the work of the Douglas County Flora group. We envisioned a vascular flora checklist specific to a number of geographic sub-areas which would be useful to professional botanists and other plant enthusiasts.

An organizational meeting was held in April 1993 and attended by Evelyn Everett, John Koenig, Bruce Newhouse, Rhoda Love, Ethen Perkins, and Charlene Simpson. Anna Mockler and David Wagner provided later input. We quickly recognized our need to draw upon the vast store of existing information in field trip lists, herbarium vouchers, and published literature to avoid reinventing the wheel. We knew of Karl Urban's Oregon flora data base but, alas, it could not be sorted by county.

Scott Sundberg, of the OSU Herbarium, met with our group in January 1995 to discuss the sharing of information between the Oregon Flora Group and the Lane County Checklist Group. We saw this as mutually beneficial in that we would provide site specific information for Lane County taxa to the Atlas project and receive in return authoritative nomenclature. Bruce and Charlene joined the Atlas project central planning committee, and NPSO appointed Bruce their state coordinator, while Charlene is presently coordinator of Lane County's efforts for the Atlas project.



Illustrations of *Euonymus occidentalis* by Jeanne Janish, taken from Hitchcock et al. 1969, *Vascular Plants of the Pacific Northwest*, courtesy of the University of Washington Press.

A working draft of the Lane County Checklist is growing daily. At present it contains 1,550 entries, drawing from NPSO, agency, and published checklists with specific Lane County sites. Rhoda, Bruce, and Charlene have cross-referenced many taxa with OSU Herbarium vouchers. Because of ongoing additions and changes, the Lane Checklist is not available for circulation at this time. We are eager, however, for any new information about unusual plant sightings, or plant lists which will add to the quality of the Lane County list. Please call: Charlene Simpson, (541) 465-1059, if you have any information you believe will assist our effort.

The Oregon Flora Newsletter editor has asked me what interesting plant species were found in Lane County this past summer. Dick Brainerd of the ecological consulting firm Salix Associates, found *Euonymus occidentalis*, western wahoo, on BLM land near Culp Creek. As far as we know, this is its first record for Lane County. Also, Dick receives credit for discovery, in the Coburg Hills, of *Agrostis howellii*, a grass species disjunct in Lane County from its normal range to the north. Charlene Simpson found *Lewisia columbiana* var. *columbiana* on Dome Rock. While not a first for Lane County, it is a first for the Willamette National Forest and was immediately added to the Forest's sensitive list.

Thanks!

Thanks to the following people who have recently helped the Oregon Flora Project:

Karen Antell, Wayne Armstrong, Jeff Braatne, Richard Brock, Henny Chambers, Charles Convis, Stu Garrett, Linda Hardison, Patricia Holmgren, Frank Lang, Don Mansfield, Kathy Merrifield, Dick Straw, Duncan Thomas, Maxine Thompson, Chris Thoms, and Gilbert Voss.

Thanks to each of you who has sent a check to the Flora project since the last newsletter: Linda Hardison, Aaron & Sara Liston, John & Phyllis Reynolds, Kareen Sturgeon, Karl & Elaine Urban, and Loverna Wilson.

Special thanks to Environmental Systems Research Institute, Inc. of Redlands, California for donating ArcView 2.1 and other software to the Flora project.

What we have learned from your responses

by Scott Sundberg

In 1995 we appealed to you for specimens of duckweeds, new Oregon plant records, information on Columbia hawthorn distribution, information on Oregon herbaria, and species lists. We have received numerous responses, which have helped the project enormously. Thanks! Here are some of the things we now know:

Duckweeds: We know of 11 species of duckweeds (family Lemnaceae) in Oregon. One additional species (*Lemna aequinoctialis*) might also be here, but it is difficult to identify with certainty the one specimen in the herbarium with this label. (Does any reader wish to look for this between Medford and Crater Lake?) Specimens sent in represent new records for Clatsop, Harney, Jackson, Klamath and Lane counties.

New Oregon plant records: Nine new Oregon species records are now known to us because six readers sent in specimens, photographs, or photocopies to document occurrences in Oregon. In addition, there is an intriguing report by a backcountry wilderness guard of a population of an unknown tree species growing deep within the Three Sisters Wilderness Area. The specimen we saw (a single leaf) looks like it may be red maple (*Acer rubrum* L.), a native of the eastern US and Canada, which was probably planted by someone several decades ago and has since spread. We hope to have a better specimen next year.

Columbia hawthorn: In July we asked how far south field botanists have found *Crataegus columbiana* and were pleased to hear from four readers. Specific sites mentioned were in Union, Wallowa, and Baker counties. We would still like to hear from anyone who has seen this taxon further south in Oregon or in northeastern California.

Oregon herbaria: We know of 32 herbaria in Oregon. In addition to the three herbaria housed at OSU we know of collections at six universities and colleges, eight Forest Service offices, nine Bureau of Land Management offices, one Indian reservation, one county museum, one national park, a national monument, and in four private herbaria.

Species lists: We have received nearly 700 species lists from many areas of Oregon. These will form the nucleus of the Atlas database (see October 1995 issue of the *Oregon Flora Newsletter*).

We continue to collect information on all of the above and would be very interested in any additional contributions from readers.

Oregon Flora Project news

by Scott Sundberg

The Atlas project has gotten a large boost during the past three months. On November 17th we held an Atlas project workshop at OSU, with about fifty people attending. At the workshop the *Draft Handbook for Participants, Oregon Plant Atlas Project* was presented and plant collecting techniques and ethics were discussed. At the end of the workshop the regional coordinators gathered around a wall map of Oregon and used tape to divide the state into regions. As Bruce Newhouse and I shook hands after the meeting, we had a feeling that this exciting project had truly been launched!

We are now actively preparing for the 1996 field season. We need volunteers to help with field work, and coordinators are being sought for southeastern Oregon. We are also trying to acquire more species lists, especially for sites in eastern Oregon.

The Checklist project has gone through an expected slow period because many contributors were involved in the *Conservation and Management of Oregon's Native Flora* symposium. Currently the database has 4,374 accepted names and 1,280 synonyms. In about a month, the integration of the OSU and UO herbaria will be complete, and work on the Checklist will pick up.

To be added to our mailing list (if not already on it):

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Would you like to make a donation?

Tax-deductable donations can be made to the Oregon Flora Project by sending a check made out to the Oregon State University Foundation to Scott Sundberg at the address on page 2. Please note on the check that it is for the Oregon Flora Project. At present most contributions are dedicated to newsletter expenses and student wages.

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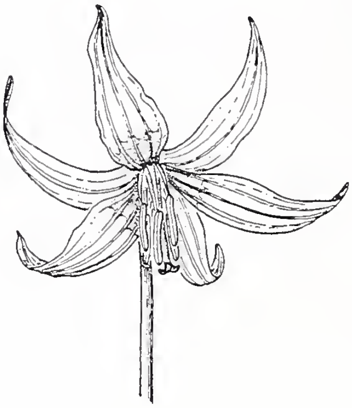

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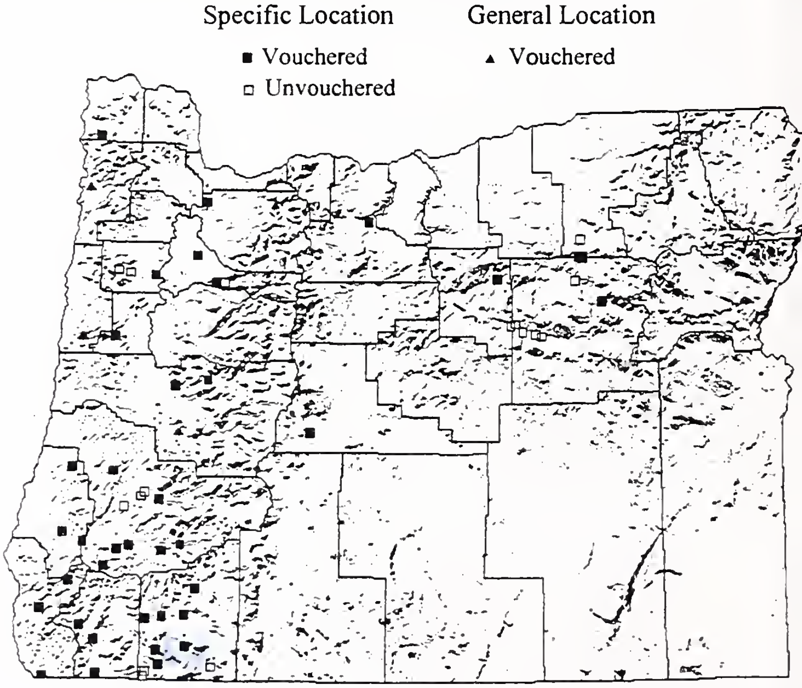
Did you know?

- *Arenaria* is a genus name for sandworts (plants) and turnstones (birds); *Aster* for asters and starfish; *Oenanthe* for water parsley and a wheatear (bird); and *Prunella* for self-heal and accentors (birds).

- Ironically, *Astragalus oreganus* does not occur in Oregon. According to Barneby (1964) it was named by Thomas Nuttall in 1838 after the source of the "Oregon River," probably in Wyoming. We now think he was referring to a tributary of the Snake River.

- Hotrock beardtongue, Jack-go-to-bed-at-noon, scurvy grass, bastard toadflax, dyers' wood, morning brides, and coastal mugwort are common names of Oregon plants.

Carex nudata (torrent sedge)



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OREGON FLORA NEWSLETTER

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Helen Gilkey (1886-1972)

by La Rea Dennis Johnston and Rhoda Love

March 6 marked the 110th anniversary of the birth of a remarkable woman who was the first member of her sex to graduate with a degree in botany from the University of California at Berkeley. She named six genera and over forty species, was the author of many articles and books, and was curator of the OSU herbarium for 33 years.

Helen Margaret Gilkey was born in 1886 in Montesano, Washington, one of six children, five of whom survived. Her father, a horticulturist, moved the family to Corvallis in 1903 where Helen attended Oregon Agricultural College (now OSU), graduating at age 21 and receiving a Master's degree in 1911. The following year she entered the University of California at Berkeley where she became the first woman to receive a PhD in Botany. Her dissertation was entitled, "A Revision of the Tuberales (Truffle Fungi) of California." She then joined the Berkeley faculty as scientific illustrator, drawing many illustrations for the original *Jepson's Manual of the Flowering Plants of California.*

See Gilkey, page 8

Helen Gilkey

Field work for the Atlas project

by Bruce Newhouse

Newsletter readers are probably familiar with the Oregon Plant Atlas Project. It is being conducted over the next few years with the primary goal of producing an individual range map for every vascular plant species known to occur in Oregon. The completed maps will be available in both paper and electronic versions. Various sources of information are being used to prepare the maps including existing plant lists from the Forest Service, BLM, other agencies, the Native Plant Society of Oregon (NPSO) and individual list makers. New field data is also being collected for the project.

Beginning with a map of the state, we created a grid overlay following approximately every fourth township line. Each township is six miles on a side, resulting in grid squares, or blocks, that measure approximately 24 miles on a side, or 576 square miles. Locations of existing plant lists are plotted on this map. This will help determine which blocks have not been well inventoried.

I am acting as NPSO state coordinator for field work and Scott Sundberg is the coordinator for the entire Atlas project. Volunteer Regional Coordinators (see page 10) have stepped forward to coordinate field inventories of most areas of the state (with the exception of southeast Oregon). Regional Coordinators are assigning volunteers to under-inventoried areas, making sure that each ecoregion (see OFN, July 1995) in each block is represented with a plant list.

In addition to comprehensive site lists, individual plant sitings of importance will also be recorded. Many NPSO chapters are scheduling field trips during the upcoming field season to begin these inventories. We anticipate that the inventories will continue for at least three or four years.

If you are interested in adopting a block to inventory, or coordinating inventories for a set of blocks in southeast Oregon as a Regional Coordinator, please contact Bruce Newhouse at (541) 343-2364, newhouse@efn.org, or 2525 Potter, Eugene, OR 97405. We welcome your interest and involvement!

Gilkey, continued from front page

Gilkey returned to Corvallis in 1918 to join the OSU faculty as Assistant Professor and Curator of the Herbarium. During her 33 years as curator, she developed the herbarium into a center for the dissemination of information as well as the deposition of specimens. Her publications, *Weeds of the Pacific Northwest* and *Livestock-Poisoning Weeds of Oregon*, have been of great value to Northwest farmers. In 1929, she published the forerunner of her well-known *Handbook of Northwestern Plants*. Her work, *Tuberales of North America*, was the first in the Oregon State Monographs - Studies in Botany series. Other contributions to this series include *Aquatic Plants of the Pacific Northwest* and *Winter Twigs*. Gilkey drew the beautiful frontispiece illustration of *Viola hallii* for Peck's *Manual of the Higher Plants of Oregon*.

During Gilkey's tenure, the OSU herbarium grew from 25,000 to more than 75,000 vascular plant specimens. She retired in 1951 but remained active as Professor Emerita until her death at age 86 in 1972. Gilkey received the Oregon Academy of Sciences Citation for Outstanding Achievement and the OSU Distinguished Service Award. She belonged to Phi Beta Kappa and Sigma Xi. In private life, Gilkey was devoted to friends, family and church, and supported many liberal causes including the NAACP, the international peace movement and environmental protection. Last year, at the suggestion of Berkeley botanist Barbara Ertter, Helen Gilkey was inducted into the Berkeley Women's Hall of Fame.

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Peter Zika
Don Zobel

Address correspondence to:
Scott Sundberg, Coordinator, Oregon Flora Project
Department of Botany & Plant Pathology
Oregon State University • Cordley Hall 2082
Corvallis, OR 97331-2902
E-mail: sundbers@bcc.orst.edu
(541) 737-4338; FAX (541) 737-3573
http://www.orst.edu/dept/botany/herbarium

Project News

by Scott Sundberg

The Flora project continues to build momentum. There has been a great deal of activity on the Atlas project, in both data gathering and development of data presentation methods. We now have a prototype computerized map with dots showing where *Carex nudata* has been reported in the state. By positioning a cursor over a dot and clicking, the viewer can call up the data associated with the dot. We have recently received dozens of species lists. A revised *Handbook for field participants* will be distributed soon.

The Checklist currently has 4,358 accepted names and 1,426 synonyms. Draft treatments of numerous groups have been received. To provide links to the plant Atlas database we have created six- or nine-letter codes (acronyms) for all taxa in the database.

If you haven't yet seen it, check out the OSU herbarium World Wide Web home page (see address below). So far, it has been accessed by over 1,600 people from 69 countries! It now provides access to the OSU vascular plant type and mycological type specimen databases and features taxonomic treatments of North American *Ceanothus* and West Coast species of Lemnaceae.

Thanks!

Thanks to the statewide and Umpqua Valley Chapter membership of the Native Plant Society of Oregon for grants awarded in January! Contributions, including repeat donations, are also a vital part of our funding. We thank the following people for recently donating to the Flora project: Sara Barnum & Joyce Beeman, Keith & Mary Chamberlain, Stanton Cook, Wayland & Yvette Ezell, Aileen Ho, Patricia & Noel Holmgren, Rhoda & Glen Love, Theodore & Laramie Palmer, Brian & Beverly Pocock, Richard Prusz, Lundy & Fred Reynolds, Donald & Ruth Roberts, Veva & Robert Stansell, N. Hope Stubbs, Mildred Thiele, Jim & Nancy Weber, Molly Widmer, Jo Yeager.

Thanks to the following people who helped the project by volunteering (*), sending species lists or specimens, or providing information on Oregon plants: Jeff Braatne, Henny Chambers*, Andy Carey*, Jenny Dimling, Dave Dobak, Jane Ely*, Doug Goldenberg, Linda Hardison*, Marilynn Karbonski*, Chris Melotti, Barbara Mumblo, Maxine Thompson, Chris Thoms*, Jon Titus, Carol Tyson, Gilbert Voss*.

Illustrations of *Erythronium oregonum* by Linda Ann Vorobik.

Alien Plant Invaders

by Dennis Isaacson

Oregonians may not realize how many alien plant species have naturalized in Oregon or what impacts they have on ecosystems. The effects of these invaders on native plant communities are extensive. Most obvious are situations where alien species directly compete with native species for space, light, moisture, or nutrients.

Less obvious, and more important, are cases where invaders physically alter habitat for natives, or where changes are induced in ecosystem function. Shrubby leguminous invaders like gorse and Scots broom (*Cytisus scoparius*) can establish upon and stabilize zones of natural disturbance. In river systems, this stabilizes gravel bars which can cause changes in channels and subsequent streambank erosion. These and other introduced species such as European beachgrass (*Ammophila arenaria*), may stabilize dunes, drastically altering physical conditions to which native communities are adapted.

In some ecosystems, invaders can alter availability and cycling of nutrients. Dr. Peter Vitousek of Stanford University has documented the disruptive effect of the invading nitrogen-fixer, *Myrica faya* (candleberry myrtle), on natural communities adapted to young lava deposits in Hawaii. In pine communities in eastern Oregon, invasion by a tap-rooted herbaceous perennial, spotted knapweed (*Centaurea maculata*), is likely to cause conversion to a treeless desert-type community because this invader uses water from different zones in the soil profile and in different seasons than do native herbaceous plants. In such areas, only a little less moisture may have a marked effect on forest succession.

How can we limit the impacts of invading alien species? In the past, weed control efforts were primarily "see weed, kill weed" operations. Control attempts were not organized until weeds had become a problem. Today many weed management efforts target the prevention of infestations or the detection and treatment of infestations while they are still small. Species targeted for intensive control are those most likely to present serious future impacts rather than those which are already widespread.

Purple starthistle and squarrose knapweed are two species now targeted for control before they become widespread in Oregon. Both are well-established in California, and squarrose knapweed is a serious problem in Utah, where it has spread rapidly. In Oregon there have so far been only two detections of purple starthistle, and three of squarrose knapweed. All these infestations are under intensive control with the goal of stopping all seeding and of reducing plant populations to zero if practical.

Detection efforts are focused on these weeds, and a few others that represent potential threats (see table below), and anyone interested in protecting and conserving Oregon's native plants can help by reporting locations of any of these weeds to the Oregon Department of Agriculture at (503) 986-4621.

Look out for these invaders!

Common name	Scientific name	Report if found in these areas:
Tansy ragwort	***Senecio jacobaea***	**Anywhere in eastern OR**
Gorse	***Ulex europaeus***	**Lincoln Co. & north on coast, any inland site**
Purple starthistle	***Centaurea calcitrapa***	**Anywhere in OR**
Iberian starthistle	***Centaurea iberica***	**Anywhere in OR**
Squarrose knapweed	***Centaurea virgata***	**Anywhere in OR**
Distaff thistle	***Carthamus spp.***	**Anywhere in OR**
Hydrilla	***Hydrilla verticillata***	**Any OR lake or stream**

To be added to our mailing list (if not already on it):

Name ______________________________

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Would you like to make a donation?

Tax-deductable donations can be made to the Oregon Flora Project by sending a check made out to the Oregon State University Foundation to Scott Sundberg at the address on page 8. Please note on the check that it is for the Oregon Flora Project. Your donations mostly go toward newsletter expenses and student wages.

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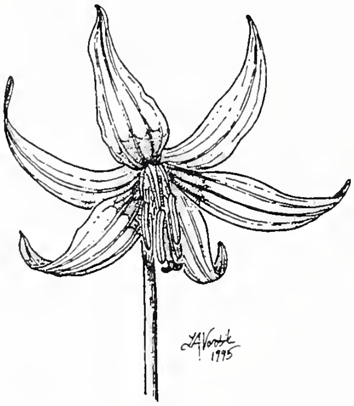

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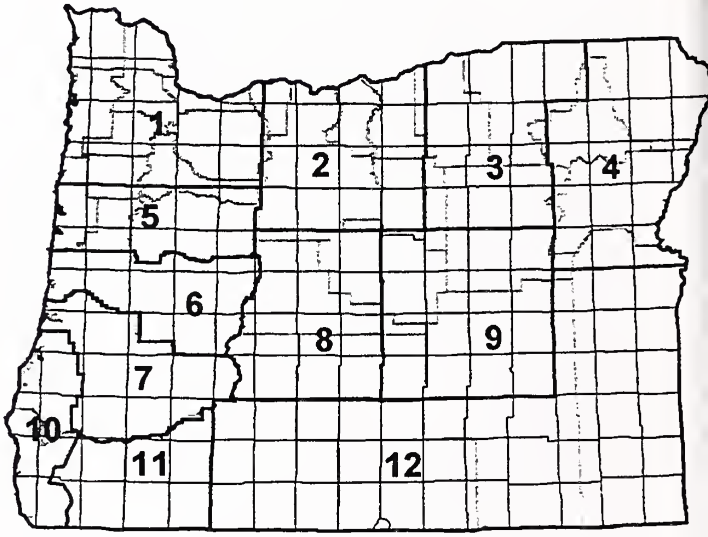
Did you know?

- Our early-blooming Northwest coast endemic shrub, osoberry (*Oemleria cerasiformis*) is the only member of the Prunoid subfamily of the Rosaceae in the world which is dioecious and the only one which produces more than one drupe per female flower.

- *A Flora of Northwest America* was published from 1897 to 1903 and is our earliest regional flora. The author, Thomas Jefferson Howell, a pioneer on Sauvie's Island near Portland, set the type himself. Early printings have a typographical error on the title page, misspelling "Northwest" as "Northwhst."

- The stamens of Oregon grape (*Berberis* spp.) move inward when touched; the stigma lobes of monkeyflowers (*Mimulus* spp.) close when touched and when a pollinator lands on the keel petal of Scots broom (*Cytisus scoparius*), the stamens flip up and dust the insect's underside.

Plant Atlas Regions and Block



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6. Charlene Simpson
7. Lisa Wolf
8. Katie Grenier

10 ~~9~~. Veva Stansell
11 ~~10~~. Dick Straw
9 ~~11~~. Faye Steier
12. Bruce Newhouse

▭ Plant Regions
▭ Oregon Blocks
┄ Counties

OREGON FLORA NEWSLETTER

Volume 2 Number 3 • Oregon State University • July 1996

Charlene Simpson: Lane County Checklist Coordinator

Charlene Simpson wears many hats: mother and grandmother, university administrator, student financial aid counselor, community committee person, and avid lay botanist. Her botanical interest dates back to childhood Camp Fire Girl projects and a Dad whose motto was always, " I brake for wildflowers."

Born in Colorado, Charlene has lived in Oregon since the age of two. "I know this dates me, but when I moved to Oregon, Eugene's population was only 12,000 and what is now the south half of town was farmland." She points out that this predated the local flood control projects. "You don't know what a wetland really looks like in Eugene, unless you lived here then," she says. Charlene received her baccalaureate degree in home economics from OSU, and her Master's degree in interdisciplinary studies / juvenile corrections from the University of Oregon. She says now, however, that if she had it to do over, her degrees would be in botany.

Charlene got her first SLR camera in 1975 and purchased a macro lens a year later. From the first, her favorite photographic subjects were wildflowers. She

See Simpson, page 12

Charlene Simpson at the top of Cone Peak.

Notes on some interesting Oregon groundsels

by Kenton L. Chambers

Having recently completed a treatment of *Senecio* (groundsel, ragwort, butterweed) for the Oregon Vascular Plant Checklist, I wish to share some observations on this variable and taxonomically complex genus as represented in Oregon. Although some of the species are distinct and easily recognizable, others are parts of very wide-ranging North American species-complexes in which key characteristics blend and recombine in patterns that make precise species definitions impossible.

One cannot blame the taxonomists who have wrestled with these complexes—notably Arthur Cronquist and Theodore M. Barkley—for the fact that various species of *Senecio* intergrade with each other. Puzzling morphological patterns result from the peculiar mix of evolutionary processes occurring within the genus. However, there has been very little biosystematic research done to clarify these processes, hence our taxonomic knowledge of the genus is sadly inadequate.

Taken alphabetically, here are some of the more interesting *Senecio* species that I verified for Oregon's flora: *Senecio aronicoides* DC. (rayless groundsel), a California species closely related to our common *S. integerrimus* Nutt. (tall western groundsel), has been found at a few sites in the Siskiyou Mountains of southwestern Oregon. A good example was collected in 1968 by Rosamond Hess at 3,000 feet elevation east of Wedderburn, Curry County. The heads in this species are smaller than in *S. integerrimus* and usually lack ray-flowers; the leaves and stem are cobwebby-hairy.

Senecio canus Hook. (woolly groundsel) is the common finely- and densely-hairy native perennial groundsel of the sagebrush regions and mountains of central and eastern Oregon. Its leaves may be entire or irregularly lobed. There is a form of *S. canus* that is common on serpentine soils of southwestern Oregon, where plants intermediate between it and *Senecio macounii* Greene (Puget butterweed) may also be found.

The latter species ranges northward, west of the Cascades, as a rare component of the native prairie

See Groundsels page 12

took an adult education class in botany at Lane Community College followed by a summer session with Sandy Tepfer at the University of Oregon. She bought Gilkey and Dennis' *Handbook of Northwest Plants*, and Hitchcock's *Flora of the Pacific Northwest* and then, as she says, she was hooked.

In 1979 Charlene joined eight others to found the Emerald Chapter of the Native Plant Society of Oregon (NPSO). David Wagner was the new chapter's first president and Charlene was its second. She has served the chapter in various other capacities, including secretary, rare and endangered plant chair, and field trip chair. Her current project is coordination of the Lane County Checklist Project, an effort to list every Lane County vascular plant with site-specific information.

Charlene uses her large and comprehensive botanical slide collection as a resource for illustrated programs. She has used this medium to educate NPSO members about Lane County's rare and endangered plants. Emerald Chapter's newly adopted listing format assigns species of concern to three lists designated red, yellow, and grey, according to severity of threat. The list is updated every two years, and Charlene enjoys her central role in the biennial reviews.

It was through her work on the Lane County Checklist that she was asked to participate as a project leader with the Oregon Atlas Project. Lane County's project, and the earlier Douglas County Floral Survey (see OFN Vol. 1 No. 2) list species with specific locations within their respective geographic boundaries. Both projects have been valuable resources for the Oregon Vascular Plant Atlas Project.

With two more years to go before retirement from the University of Oregon, Charlene fantasizes about botanical adventures to come and resolution of the inherent competition between professional life and avocation. She says, "I dream of the luxury of mid-week field trips, and maybe a van equipped with library and laptop computer, as well as more trips to the fabulous Siskiyous with friend Veva Stansell."

The Oregon Flora Newsletter is published quarterly by the Oregon Flora Project and the Oregon State University Herbarium. The Editor is Rhoda Love and the Production Assistant is Camille V. Tipton.

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Address correspondence to:
Scott Sundberg, Coordinator, Oregon Flora Project
Department of Botany & Plant Pathology
Oregon State University Cordley Hall 2082
Corvallis, OR 97331-2902
E-mail: sundbers@bcc.orst.edu
(541) 737-4338; FAX (541) 737-3573
http://www.orst.edu/dept/botany/herbarium

Groundsels, continued from front page

habitats harboring such relict species as *Erigeron decumbens, Lupinus sulfureus* ssp. *kincaidii,* and *Aster curtus.*

Several old herbarium records exist of typical *S. canus* from coastal Clatsop and Tillamook counties, widely disjunct from its main range and in a cool, moist climatic zone quite atypical for the species. These populations, if rediscovered, would be an inviting subject for ecological and genetic studies.

Senecio ertterae T. M. Barkley (Ertter's senecio) is a highly localized endemic species of Harney County, found only on clay soils derived from ancient volcanic ash flows. It was discovered and described less than 20 years ago and is remarkably distinct from all other Northwest members of the genus.

Senecio flettii Wiegand (Flett's groundsel) occurs principally in the Olympic Mountains and Cascade Range of Washington. It was discovered in the high North Coast Range of Clatsop, Tillamook, and Washington Counties in the early 1970s, growing with other species having a northern floristic relationship, such as *Synthyris schizantha, Cladothamnus pyroliflorus, Prenanthes alata*, and *Lewisia columbiana* var. *rupicola.*

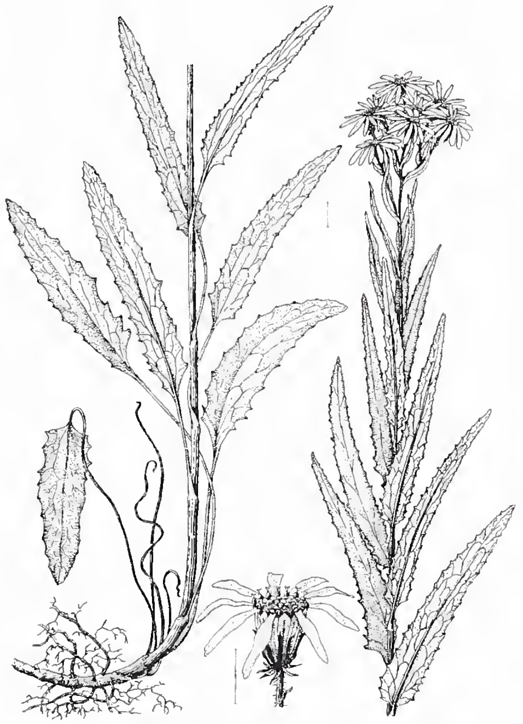
Senecio sphaerocephalus Greene (mountain marsh butterweed) is known in Oregon only from bogs in the limestone region of Hurricane Creek, Wallowa Mountains. Its range extends east through central Idaho to Montana and Wyoming. The erroneous report of this species from Lake Labish near Salem, Oregon, is based on Cronquist's misidentification of a Thomas Howell collection of *Senecio hydrophiloides* Rydb.

See Groundsels page 13

Illustrations of *Erythronium oregonum* on the cover by Linda Ann Vorobik.

Groundsels, continued from previous page

Senecio triangularis Hook. (arrowleaf groundsel) is a familiar and widespread species, but less well known is its var. *angustifolius* G. N. Jones (bog groundsel), which occurs exclusively in coastal peat bogs. Instead of the usual broadly triangular leaves of var. *triangularis*, the bog form has numerous narrowly lanceolate leaves, gradually decreasing in size up the stem (see illustration below). Human modification of its unique habitat, through agriculture and urban growth in the coastal regions of the Northwest, may already have made *S. triangularis* var. *angustifolius* a rarity in the native flora.



Senecio triangularis var. *angustifolius*. Illustration by Alexander Mikulin, a visiting Russian lichenologist and Assistant Professor (courtesy) in the OSU Dept. of Botany & Plant Pathology. Bars = 1 cm.

Project News

by Scott Sundberg

Spring and Summer are seasons for being outdoors, and a number of enthusiastic participants in the **Atlas** project have been making species lists in interesting places. Lists have been submitted by several people, and we know of many more to come. We are currently working on agreements with the Bureau of Land Management and the U.S. Forest Service to share plant locality data. Toward the end of Spring term at OSU, significant progress was made on the software development for the electronic Atlas.

Over 23 percent of **Checklist** treatments have been submitted. We now have 4370 accepted taxa and 1733 synonyms in the Checklist database. A large number of revisions to the overall list have recently been made, including the addition of hundreds of synonyms.

Thanks!

Thanks to Emerald Chapter and Corvallis Chapter members of the Native Plant Society of Oregon for grants awarded in April and May! Contributions, including repeat donations, are also a vital part of our funding. We thank the following people for recently donating to the Flora project: Bruce Barnes, Jan & David Dobak, Bonnie Hall, Rhoda & Glen Love, Esther & Peter McEvoy, Jeanne Moore (donation in memory of Yvonne Knouse), Freeman Rowe.

Thanks to the Botany Club at OSU and the following people who helped the project by volunteering (*), sending species lists or specimens, or providing information on Oregon plants: John Azen*, Bruce Barnes, Bert Brehm, Sarah Brown, Sahni Burkhart, Wendy Campbell*, Henny Chambers*, Shannon Clery, Don Eastman, Jane Ely*, Clay Gautier*, Don Kyhos, Judith Manning, Pat Martinez, Alexander Mikulin*, Jeanne Moore, Sherry Pittam*, Johnny Proctor*, Gemma Redmond*, Anne Turner, Sue Vrilakas.

To be added to our mailing list (if not already on it):

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Would you like to make a donation?

Tax-deductable donations can be made to the Oregon Flora Project by sending a check made out to the Oregon State University Foundation to Scott Sundberg at the address on page 12. Please note on the check that it is for the Oregon Flora Project. Your donations mostly go toward newsletter expenses and student wages.

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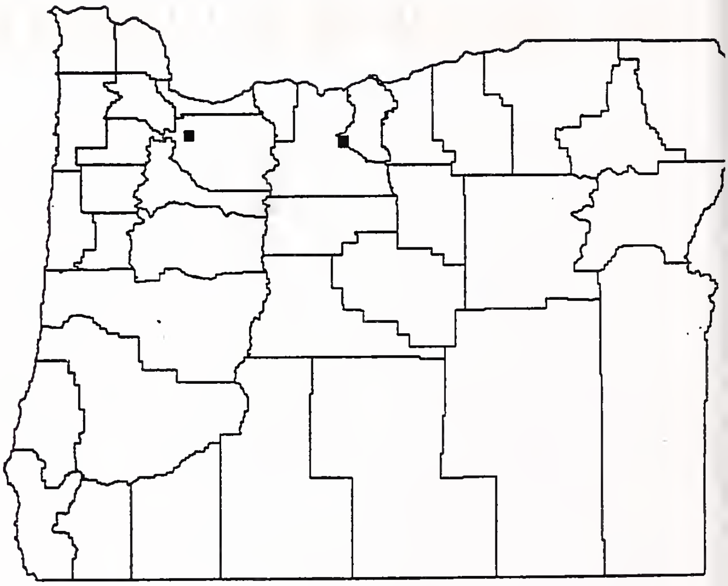
Did you know?

- The Oregon endangered species *Ivesia rhypara* (grimy ivesia), has a species name which is a double pun. Named in 1972 by Barbara Ertter and James Reveal, the Greek word "rhyparos," meaning "dirty" or "grimy" was used to describe the dusty appearance of the plant, as well as to honor its co-discoverer, James W. Grimes, now at the New York Botanical Garden.

- Some plants produce both showy flowers and inconspicuous ones that are small, closed, and self-pollinated. The term for the latter type is "cleistogamous," meaning "hidden sex." Examples of Oregon plants with both cleistogamous and showy, cross-pollinated (chasmogamous) flowers are: *Collomia grandiflora* (large-flowered collomia), *Viola* spp. (violets) and *Mimulus douglasii* (Douglas' monkeyflower).

Do you have any botanical trivia you'd like to share with our readers? If you do, please send us your contributions.



Known Oregon distribution of purple starthistle (*Centaurea calcitrapa*, Asteraceae).
This is a noxious weed that can crowd out native plants. If you see any populations, please contact the Oregon Department of Agriculture at (503) 986-4621 [see *OFN* Vol. 2 No. 2; source of data: ODA].

OREGON FLORA NEWSLETTER

Volume 2 Number 4 • Oregon State University • October 1996

Ken Chambers
Professor Emeritus, OSU

Ken Chambers became interested in biology through his mother, who taught science at his high school in Paso Robles, California. He was attracted to plant taxonomy by a course he took when majoring in biology at Whittier College. After graduating in 1950, he was accepted at Stanford, where he completed his Ph.D. with a thesis on the biosystematics of the annual species of *Microseris* (Asteraceae). He then studied for one year at UCLA in Harlan Lewis' laboratory before accepting a position as Instructor in Botany at Yale University in 1956. Of his four years at Yale Ken says: "I had many rewarding experiences, the best of which was to meet and marry Henrietta ("Henny") Laing, who finished her Ph.D. in plant taxonomy there in 1960." That year Ken and Henny moved to Corvallis where he began his tenure at Oregon State University as Associate Professor of Botany and Plant Pathology, and Curator of the Herbarium.

Ken's activities at OSU over a 30-year time span centered on teaching and research in plant taxonomy plus curatorial and public service work in the herbarium. Of the latter he says: "I had the invaluable help of LaRea

See Chambers, page 16

Ken Chambers (left) and fellow Stanford biologist John Figg-Hoblyn in Baja California, 1955.

The OSU Herbarium: three herbaria in one!

by Aaron Liston and Scott Sundberg

Visitors to the Oregon State University Herbarium who haven't been here in the past two and a half years will find a modern facility in newly renovated quarters! Renovation was completed in January, 1994, and was partly funded by a grant from the National Science Foundation. Currently housed here are the three largest herbarium collections in Oregon: Oregon State University (OSC), University of Oregon (ORE), and Willamette University (WILLU). Although the collections are worldwide in scope, they focus on the state of Oregon and the Pacific Northwest. The herbarium now contains approximately 370,000 vascular plant, bryophyte, algal, and fungal specimens. The three collections bring complementary strengths to the newly consolidated herbarium:

OSC, founded in 1886 (160,000 vascular plant, 60,000 lichen and fungal, 6,200 bryophyte, and 3,000 algal specimens), is the oldest and largest of the three herbaria. In the early years the herbarium in Corvallis benefitted from the curatorships of Moses Craig, Howard S. Hammond, and Helen Gilkey. By the time Gilkey retired in 1951, the herbarium contained 75,000 vascular plant specimens. It has been located in Cordley Hall since 1957.

ORE, founded in 1903 (110,000 vascular plants, bryophytes, and lichens), contains the historically valuable collections of the region's first resident botanists from the late 19th and early part of the 20th century, including Thomas and Joseph Howell and William Cusick. It was moved to Corvallis in May, 1993 and the collections have been merged with those of the OSU herbarium. However, specimens from the UO herbarium will retain their original accession (catalog) numbers.

WILLU (32,000 vascular plants) consists of the personal collection of Morton E. Peck, Professor of Biology at Willamette University, Salem from 1908 until 1941. The collection was moved to Oregon State University on "indefinite loan" in 1976 and is maintained separately as specified in the transfer agreement.

See Herbarium, page 19

+ p. 17

Volunteers needed for the Oregon Flora Project

Volunteers are critical participants in the Oregon Flora Project. Leaders of the Flora project, the Atlas project, the Checklist advisory board, Atlas regional coordinators, our newsletter editor, and many other people around the state are already volunteering their time. Currently, several part-time student workers are our only paid staff.

Volunteers are urgently needed for entering data into the Oregon Vascular Plant Atlas database. Much of this work can be done anywhere in Oregon, although volunteers would need to visit Corvallis one time for training. We also need help at the Herbarium with a number of tasks, such as mounting specimens, database management and fund-raising. We would love to hear from people who would like to help. If you are interested, please contact Scott Sundberg at the address or phone number below. Please join our team by becoming a volunteer for the Oregon Flora Project!

Illustrations of *Erythronium oregonum* on the front and back covers by Linda Ann Vorobik.

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Faye Streier
Lisa Wolf

Address correspondence to:
Scott Sundberg, Coordinator, Oregon Flora Project
Department of Botany & Plant Pathology
Oregon State University • Cordley Hall 2082
Corvallis, OR 97331-2902
E-mail: sundbers@bcc.orst.edu
(541) 737-4338; FAX (541) 737-3573
http://www.orst.edu/dept/botany/herbarium

Chambers, continued from front page

Dennis Johnston, who had a genius for dealing with the problems of farmers and extension agents needing identifications of weeds and toxic plants." During his three decades of teaching, Ken also directed 16 Masters theses and 17 Ph.D.s. Examples of genera worked on by his students include: *Aster, Claytonia, Mimulus, Juncus, Calochortus, Trillium, Crepis, Hackelia, Arctostaphylos, Lathyrus, Achillea, Artemisia, Mentzelia, Astragalus, Phacelia, Sophora* and *Triticum*. He retired in 1990 and is now an Emeritus Professor, with an office on the first floor of Cordley Hall, across from the new herbarium.

Ken looks back with pride to his collaboration with Jean Siddall and David Wagner during the 1970s, when they prepared a preliminary catalog of the rare, threatened, and endangered plant species of Oregon. "For a decade or more, it was Jean and her corps of dedicated amateur botanists throughout the state, along with a few professional taxonomists, who promoted the conservation of endangered plants," he says.

Ken has been active in a number of professional societies, including the American Society of Plant Taxonomists (president, 1979), Botanical Society of America (chairperson, Systematics Section, 1965-67), and American Association for the Advancement of Science (executive committee, Pacific Division, 1984-90). His professional awards include a Career Merit Award from the Botanical Society of America, 1990; OSU Alumni Distinguished Professor Award, 1989; and appointment as Fellow of the AAAS, 1989. In 1967-68 he worked for the National Science Foundation in Washington, D.C., as director of their program in Systematic Biology.

Botanists Ken especially admires and who have most influenced him professionally include Ledyard Stebbins, Edgar Anderson, Harlan Lewis, William L. Stern, Ira Wiggins, David Keck, Oswald Tippo, and Peter Raven.

Ken remains every bit as active as he was before "retirement." His current research involves writing treatments of numerous genera for the Oregon Flora Checklist Project, preparing the Key to Genera for an upcoming new *Manual of the Grasses of the United States*, completing the descriptions of several new taxa, and finishing a monograph of *Claytonia* in conjunction with John M. Miller. He also enjoys traveling to interesting corners of Oregon to collect plant specimens for the herbarium and "to broaden my knowledge of the diverse flora of our state."

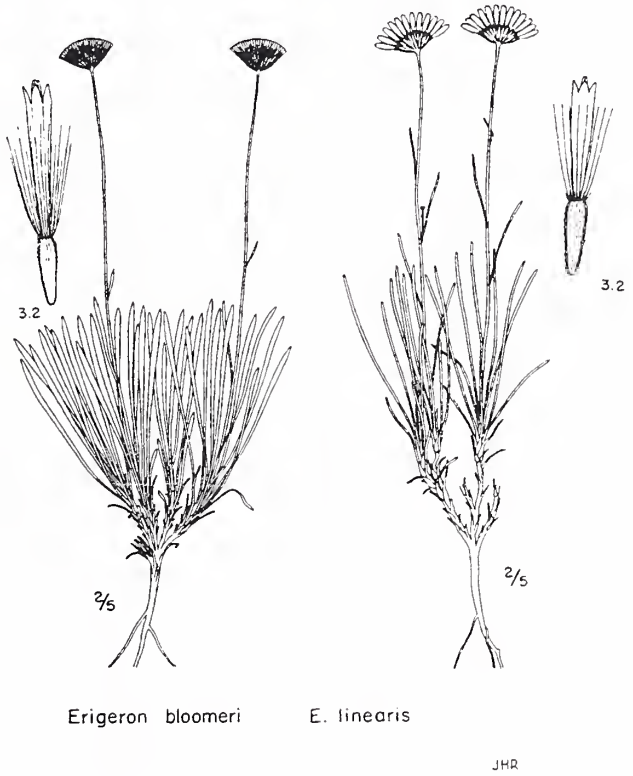
What about future careers for taxonomic botanists? "There are enough taxonomic questions remaining about our flora to keep at least another generation or two of systematists busy for life," Ken says.

Some observations on *Erigeron* in Oregon

by Kenton L. Chambers

With 48 taxa—species and varieties—in Oregon, *Erigeron* is our largest genus of Asteraceae (Compositae). In reviewing this group of fleabanes and daisies for the Oregon Flora Checklist, I was struck by the fact that most species are easily recognizable (versus *Senecio*, for example, in which many species are confusingly intergradent). Yet at the same time, the morphological differences among *Erigeron* species are minor and repetitive—that is, similar traits are cited over and over again in any typical species key.

Features such as stem hairs appressed vs. spreading, heads radiate vs. rayless, ray-flowers yellow vs. purplish or white; stem-leaves well developed vs. narrow and bract-like; basal leaves 1-nerved vs. 3-nerved, etc.—frequently repeat themselves as species-defining choices. Putting it succinctly, the morphological differences between *Erigeron* species tend to be minor but consistent.



Eastern Oregon species *Erigeron bloomeri* and *E. linearis* may produce hybrids of intermediate morphology. Illustrations by John H. Rumely from Hitchcock et al. 1969, *Vascular Plants of the Pacific Northwest*, courtesy of University of Washington Press.

This note calls attention to some of the taxonomic choices made for the Oregon Vascular Plant Checklist. For one thing, I did *not* remove *Erigeron acris* L. (bitter fleabane) and *E. lonchophyllus* Hook. (short-rayed daisy) to the separate genus *Trimorpha*, as was done in *The Jepson Manual, Higher Plants of California*. The supposed generic differences are inconsistent, because *E. lonchophyllus* combines features of both "genera."

On the other hand, I agreed with *The Jepson Manual* in adding *E. breweri* A. Gray var. *klamathensis* G. L. Nesom to Oregon's flora. This plant of the Siskiyou Mountains had previously been included in *E. foliosus* Nutt. var. *confinis* (Howell) Jeps., but it differs in having long, stiffly spreading hairs on its stems and leaves rather than the short, upwardly pointing hairs of *E. foliosus*. Some plants in the Cascade Range blend the hair-types of these two species, however, thus providing an exception to my earlier statement that species of *Erigeron* rarely intergrade.

In eastern Oregon, the three taxa of *Erigeron* that lack ray-flowers look much alike but can be distinguished by pubescence and growth-habit. *Erigeron bloomeri* A. Gray var. *bloomeri* (scabland fleabane) has a covering of appressed hairs on its leaves and stems, whereas *E. chrysopsidis* A. Gray var. *austiniae* (Greene) G. L. Nesom (Austin's fleabane) and *E. aphanactis* (A. Gray) Greene (basin rayless daisy) have a pubescence of spreading hairs. In Austin's fleabane, the flowering stems are unbranched and leafless, each with a single head; in the basin rayless daisy, the stems are branched, leafy, and bear several heads.

Morphologically quite distinct from *Erigeron bloomeri* is *E. linearis* (Hook.) Piper (desert yellow daisy), an abundant eastern Oregon species whose heads have conspicuous yellow rays. In both taxa the pubescence consists of appressed hairs. Where these species grow together, intermediate plants of hybrid origin often are found. The hybrids resemble *E. bloomeri* at first sight but have short yellow ray-flowers and grow in mixed colonies with normal, rayless *E. bloomeri*.

The rare Willamette Valley species *Erigeron decumbens* Nutt. var. *decumbens* (Pacific fleabane), with violet ray-flowers, is closely related to the white-rayed *E. eatonii* A. Gray found east of the Cascade Mountains. We discovered that the range of *E. eatonii* var. *plantagineus* (Greene) Cronquist (plantain-leaved daisy) extends from central Oregon westward through the Siskiyou Mountains to the coastal region of Curry County.

Interestingly, in the Wallowa Mountains there exists a recently described violet-rayed variety of *E. eatonii* named

See Erigeron, page 18

Erigeron, continued from page 17

var. *lavandulus* Strother and Ferlatte. This variety has a disjunct occurrence in the western Cascade Range in Clackamas and Marion Counties (see map, back page), where it had been discovered over a century ago and described as *E. pacificus* Howell, a name that has long been out of use.

Several taxa of *Erigeron* occur in Oregon only in subalpine regions. The woolly-headed species *E. simplex* Greene (alpine daisy) is found high in the Wallowa Mountains, along with the rhizomatous, talus-inhabiting *E. vagus* Payson (rambling fleabane). Both are widespread in the Rocky Mountains. The only Oregon occurrence of *E. tener* (A. Gray) A. Gray (slender daisy) is on Steens Mountain. Finally, the extremely common species *E. peregrinus* (Pursh) Greene occurs in the high mountains as a dwarfed form named *E. peregrinus* var. *scaposus* (Torr. & A. Gray) Cronquist (subalpine fleabane). Complete intergradation exists between this variety and var. *callianthemus* (Greene) Cronquist (peregrine fleabane).

A botanical foray to southeast Oregon

By Sanyaalak Burkhart, Annie Turner,
Kelly Amsberry and Sarah Brown

Four plant enthusiasts spent several glorious sunny days in June 1996 climbing rocky canyons, meandering along cool rivers, and exploring hot cliff faces in a quest for botanical knowledge. Native Plant Society of Oregon/ Oregon Department of Agriculture (ODA) volunteers Annie Turner, Sarah Brown and Sanyaalak Burkhart and Oregon State University graduate student Kelly Amsberry joined ODA botanists Tom Kaye, Bob Meinke, Steve Gisler, and Matt Carlson on a trip to Malheur County, in southeastern Oregon. Our goal was to provide information regarding the flora of this region for inclusion in the Oregon Vascular Plant Atlas. During the trip we made species lists and collected specimens to be added to the OSU herbarium.

At first glance, Southeastern Oregon in mid-summer appeared to consist mainly of dry, rolling hills. However, we quickly learned that this landscape was interspersed with isolated river canyons, ash outcrops, serpentine rock deposits, talus slopes and alkali flats all creating opportunities for species richness.

Early one morning we awoke to go botanizing in the cool dawn. The temperature increased noticeably as we walked up the road from our riverside camp at Anderson Crossing on the West Little Owyhee River to the desert plateau. As we climbed, the vegetation reflected this temperature gradient. Streamside willows such as *Salix exigua* (narrowleaf willow) and riparian annuals of the river channel were replaced by dryland plants, such as *Penstemon deustus* (hot-rock beardtongue) and *Allium anceps* (twinleaf onion). Turning off the road and into a slight depression where the soil was still moist, we encountered *Scutellaria antirrhinoides* (snapdragon scutellaria), *Plectritis macrocera* (white plectritis), *Mimulus nanus* (dwarf purple mimulus), and summer-shriveled desert mosses.

In sheltered places, the lack of wind allowed us to hear the buzzing of desert insects. Plant species including *Astragalus obscurus* (arcane milk-vetch), *Castelleja angustifolia* var. *dubia* (desert paintbrush), and *Layia glandulosa* (white layia) were able to grow successfully in this hot and dry terrain. It was interesting to note that *Phacelia linearis* (threadleaf phacelia), which also grew here, exhibited phenotypic plasticity in this environment. It ranged in size from only a few centimeters tall with a single flower, to a two decimeter tall multi-flowered plant.

Reaching the top of the rock formation, we entered yet another microclimate. Here the wind blew strongly and the sparsely vegetated, rocky landscape supported a varied lichen community. Small orange, yellow, white, chartreuse, and black lichens displayed oddly shaped reproductive structures. Nestled among the lichens, in seemingly inhospitable rock crevices grew *Penstemon deustus* and *Erigeron compositus* var. *glabratus* (dwarf mountain fleabane).

Scrambling among the canyon's south-facing cliffs and rock outcrops we found pockets of soil caught in crevices in the rock faces. Growing on the soil were beautiful specimens of *Sphaeralcea grossulariifolia* (desert mallow) with corollas the color of a desert sunset. On the hot, more exposed rock faces we discovered composites such as *Erigeron compositus* var. *glabratus* and *Eriophyllum lanatum* (woolly sunflower). Small annuals such as *Plagiobothrys scouleri* var. *penicillatus* (Scouler's plagiobothrys) inhabited the moist and shaded cracks.

Climbing further up into the canyon, amid the loose talus, we found *Leptodactylon pungens* (prickly phlox) growing on a rock outcrop. To us novice botanists, this phlox initially looked like a heath because of its needle-like leaves. However, after noticing that the leaves were palmately lobed and clustered in groups, we quickly realized otherwise. Finally, we returned to camp to identify the plants we had collected. Our trip had revealed the incredible floristic diversity of the arid sagebrush regions of Malheur County.

Herbarium, continued from front page

OSU herbarium

Specimens are stored in a new "compactor system" of 296 herbarium cases mounted on 15 carriages. The total weight supported on each carriage is approximately 9,000 pounds, but they can be easily moved by hand. The compactor system allows us to fit the specimens into a smaller room than previously. The weight of the system required that the herbarium be moved to the ground floor of Cordley Hall, where it is on the cool north side of the building. Students, and visitors have said, "We miss the nice view from the fourth floor, but not the summer heat."

At the time of the integration of the OSC and ORE herbaria, the specimens were rearranged. They are still divided among dicots, monocots, gymnosperms, ferns, and fern allies, but within these major groups they are now arranged alphabetically by family and genus. Cultivated, New World, Old World, and Oregon specimens are filed in folders with different colors, and Oregon taxa (species, subspecies, and varieties) are filed in separate folders. The oldest specimen we have found in the collection is a specimen of *Androsace* collected in the Pyrenees of Spain or France, in 1836. It was received through exchange of specimens between OSC and the Conservatoire et Jardin Botanique de la Ville de Genève (Switzerland). Specimens in the herbarium are well protected, and this particular specimen looks as though it could have been collected just last year.

Aaron Liston is the director of the herbarium and Richard Halse is its curator. Joseph Spatafora curates the mycological collection. The herbarium is located in Cordley 1045, in the northwestern part of the OSU campus, and is open to the public. Inquiries concerning the herbarium can be addressed to Richard Halse at (541)737-5297 (email halser@bcc.orst.edu), or Aaron Liston at (541)737-5103 (email listona@bcc.orst.edu) or Joseph Spatafora (541)737-5304 (email spatafoj@bcc.orst.edu).

Looking for white alder

Have you seen white alder in the Intermountain Region? Arnold Tiehm would like to know where *Alnus rhombifolia* grows in this area. If you know of any localities, please send them to Scott Sundberg at the address on page 16.

Thanks!

Thanks to the following who have donated to the Oregon Flora Project over the past four months: Bonnie Brunkow, Nancy Eid, Chuck & Eleanor Ford, Linda Hardison, John Koenig, Rhoda Love, Vern & Madeline Marttala, John Reynolds, Arnold Tiehm.

Thanks to the Willamette Chapter of the Native Plant Society of Oregon and the following people who have volunteered (*), assisted with soft ware development, and sent in species lists, specimens, and information on new plant records for Oregon. Bruce Barnes, Rudolf Becking, Frank Callahan II, Jean Findley, Clay Gautier*, Linda Hardison*, Claire Hibler, Vernon Marttala, Cathy Maxwell, Sherry Pittam*, Don Roberts, Hawkeye Rondeau, Kimberly St. Hilaire, George Ward, John Wheeler.

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Would you like to make a donation?

Tax-deductable donations can be made to the Oregon Flora Project by sending a check made out to the Oregon State University Foundation to Scott Sundberg at the address on page 16. Please note on the check that it is for the Oregon Flora Project. Your donations go primarily toward newsletter expenses and student wages.

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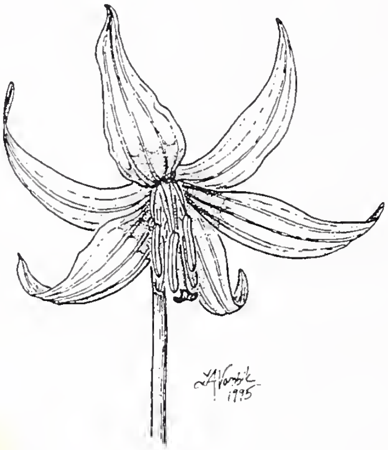

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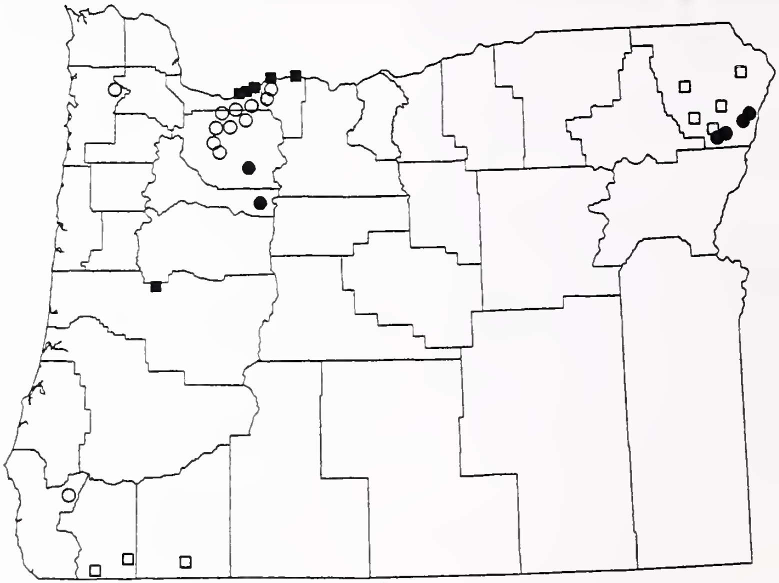
Did you know?

- The pretty, scarlet-flowered lily family member *Dichelostema ida-maia* (formerly *Brodiaea ida-maia*) of the Siskiyous was named in 1867 by Alphonso Wood, who reported that a stage driver named Burke had given the plant the name Ida May in affection for his little daughter. Wood, however, gave the name a double meaning, pointing out that the plant begins to flower on the 15th (the Ides) of May!
- Apparently there has existed some confusion about the meaning of the name *Vaccinium*. Virgil used it in several Latin poems and translators have suggested he was referring to hyacinths. Harvard's M.L. Fernald, in the 8th edition of Gray's Manual, stated the word came from *vaccinus*, meaning cows. Our own C. L. Hitchcock knew better. In Volume 4 of *Vascular Plants of the Pacific Northwest,* he wrote: "Latin name for blueberry."
- Fiber flax was first planted in Oregon in 1844, but wild flax grew here before the first Europeans arrived.



Strange Oregon plant distributions

Are these apparent disjunctions real? Please let us know if any of these species occur in intermediate areas.

■ *Agrostis howellii* (Howell's bentgrass)
□ *Chaenactis douglasii* var. *glandulosa* (sticky-headed chaenactis)
● *Erigeron eatonii* var. *lavandulus* (Eaton's lavander daisy)
○ *Isopyrum hallii* (Hall's isopyrum)